



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

Ref: 8MO

March 27, 2000

Mr. Tom Martin
Superior Ranger District
P.O. Box 460
Superior, Montana 59872

Re: Mill-Key-Wey Draft Environmental Impact
Statement

Dear Mr. Martin:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the Environmental Protection Agency, Region VIII, Montana Office (EPA) reviewed the above-referenced Draft Environmental Impact Statement (DEIS).

The EPA supports the purpose of the Mill-Key-Wey project to improve or maintain ecosystem health, big game winter range and elk security, watershed conditions, and the timber economy. EPA recognizes that resource trade-offs are involved in land management decisions (i.e., trade-offs between water quality, old growth, wildlife and fisheries impacts and other resource impacts and forest health and risk of wildfires). We support Alternative 2, since this alternative involves no new road construction, and provides the most reduction in road effects (page III-74). However, we do not object to the preferred alternative, Alternative 3/6, since this alternative appears to have minimal adverse watershed effects due to road improvements and closures, and locating new road construction away from streams. We would object to Alternative 5, since road effects would damage watershed conditions and wildlife, and this alternative would likely adversely affect the bull trout and is inconsistent with the forest plan.

The EPA supports Forest Service efforts to minimize new road construction, locate roads away from streams, and to improve and/or close and obliterate existing roads. As you know road construction greatly increases the possibility of erosion and sediment transport. Locating roads away from streams greatly reduces their impact upon water quality. We are pleased that proposed new



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roads in the preferred alternative are on ridge tops with stable geology, and that will have minimal effects on watersheds. Improvements to forest road systems and reduction in road density are critical to protecting aquatic health and wildlife resources for the project area.

We are also pleased that no harvest would be allowed within RHCAs, although EPA is concerned that a few proposed harvest units appear to be located on “extremely erosive” soils (Figure 16). We recommend that protective measures proposed to mitigate erosion and sediment transport concerns with timber harvest on extremely erosive soils be more clearly disclosed (e.g., helicopter logging, skyline logging, winter logging, etc.).

We also believe that additional information should be provided regarding potential effects of proposed activities on wetlands in the project area, and additional information should be provided on proposed usage of weed control chemicals and their potential aquatic effects. The EPA also believes there is a need to conduct monitoring to determine ecological effects of the implementation of forest management activities. It is only through monitoring of ecological effects that the USFS will be able to determine whether management goals and objectives are being met. We recommend that more specific information on the proposed monitoring programs, particularly aquatic/hydrologic monitoring, be provided in the FEIS.

The air quality analysis in the DEIS was well written and shows direct comparisons of air quality impacts according to selected alternative. We are providing some recommendations in our detailed comments to help improve the public’s understanding of air quality impacts.

The EPA’s more detailed questions, comments, and concerns regarding the analysis, documentation, or potential environmental impacts of the Mill-Key-Wey Project are included in the enclosure with this letter. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the Mill-Key-Wey DEIS has been rated as Category EC-2 (Environmental Concerns - Insufficient Information). A copy of EPA's rating criteria is attached.

As can be seen from the enclosed comments, the EPA supports Alternative 2, since no additional roads would be built, and Alternative 2 provides the most reduction in road effects. However, EPA does not object to the preferred alternative, Alternative 3/6, since this alternative would have minimal adverse watershed effects due to road improvements and closures, and limiting new road construction to ridge tops. We are concerned about harvest on erosive soils, wetland impacts, use of weed control chemicals, and the level of monitoring proposed to identify actual impacts from project activities. The EPA believes additional information is needed to fully assess and mitigate all potential impacts of the management actions.

The EPA appreciates the opportunity to review and comment on the DEIS. If we may provide further explanation of our concerns please contact Mr. Steve Potts of my staff in Helena at (406) 441-1140 ext. 232.

Sincerely,

Original Signed by John F. Wardell

John F. Wardell
Director
Montana Office

Enclosure

cc: Cynthia Cody/Yolanda Martinez, EPA 8EPR-EP, Denver
Earl Sutton, Forest Service-Region 1, EAPS, Missoula
Stuart Lehman, MDEQ, Helena
Cliff Walker, Forest Service-Region 1, FRM, Missoula

EPA COMMENTS ON MILL-KEY-WEY DRAFT ENVIRONMENTAL IMPACT STATEMENT

Brief Project Overview:

The Lolo National Forest, Superior Ranger District, has evaluated four action alternatives and no action for timber harvest, ecosystem burning, and road management within the Mill-Key-Wey project area. The Mill-Key-Wey project area includes 33,500 acres (24,900 acres in National Forest) in the Mill, Fourmile, Miller Draw, Sloway Gulch, Keystone, and Pardee drainages, north and west of Superior, Montana. The purpose of the project is to improve ecosystem health and productivity; improve big game winter range and elk security; reduce sediment impacts; provide access to an electronic and radio repeater site; improve visual quality; and provide timber production.

Alternative 1 is no action.

Alternative 2 includes harvesting 5511 acres (23,900 MBF), underburning 5,198 of the harvested acres, and prescribed burning on 1,230 acres. No new permanent or temporary roads would be built. About 13.1 miles of permanent road would be reconstructed and 5.9 miles of existing road obliterated. An additional 4.6 miles of existing road would have travel management changes. A net amount of 156 acres would be added to the timber suitable category in the Forest Plan from timber unsuitable.

Alternative 3/6, the proposed action and preferred alternative, is a combination of two earlier alternatives, and provides timber harvest with maximum wildlife improvement, and road obliteration for wildlife and watershed protection. Alternative 3/6 includes harvesting 5,812 acres (25,242 MBF), underburning 5,180 of the harvested acres and prescribed burning on 1,348 acres. About 10.6 miles of new road would be constructed (5.5 miles permanent, and 5.1 miles temporary), and 7.7 miles of existing road obliterated. An additional 10.5 miles of existing road would have travel management changes. A net amount of 345 acres would be added to the timber suitable category in the Forest Plan from timber unsuitable.

Alternative 4, for restoration only, includes 3,868 acres. About 5.9 miles of existing road would be obliterated. An additional 4.6 miles of existing road would have travel management changes.

Alternative 5 includes harvesting and burning, but with no new or additional road closures. Alternative 5 includes harvesting 5,839 acres (25,342 MBF), underburning 5,207 of the harvested acres, and prescribed burning on 1,348 acres. About 10 miles of new road would be constructed (3.9

miles permanent, and 6.1 miles temporary), and 13.1 miles of permanent road reconstructed. A net amount of 345 acres would be added to the timber suitable category in the Forest Plan from timber unsuitable.

Comments:

1. The EPA supports the purpose of the Mill-Key-Wey project to improve or maintain ecosystem health, big game winter range and elk security, watershed conditions, and the local timber economy. We recognize that resource trade-offs are involved in land management decisions (i.e., trade-offs between water quality, old growth, wildlife and fisheries impacts and other resource impacts and risk of wildfires). EPA supports Alternative 2, since this alternative includes no new additional roads, and provides the most reduction in road effects (page III-74). We do not object, however, to Alternative 3/6, the preferred alternative, since Alternative 3/6 is reported to have minimal adverse watershed effects due to road closures and road reconstruction and limiting new road construction to ridge tops. We do object to Alternative 5 since road effects would damage watershed conditions and wildlife is inconsistent with the forest plan and would likely adversely affect the bull trout..

The EPA supports Forest Service efforts to minimize new road construction, avoid locating roads near streams, and to improve and/or close and obliterate existing roads. We are pleased that all new roads are on ridge tops with stable geology and will that have minimal effects on watersheds. As you know road construction greatly increases the possibility of erosion and sediment transport. Locating roads away from streams greatly reduces their impact upon water quality. Improvements to forest road systems and reduction in road density are critical to protecting aquatic health and wildlife resources for the project area.

Areas of concern regarding roads include the number of road stream crossings; road drainage; culvert sizing and potential for washout; culvert allowance of fish migration and effects on stream structure; seasonal and spawning habitats; large organic material supplies; and riparian habitats. Undersized culverts should be replaced and culverts which are not aligned with stream channels or which present fish passage problems and/or serve as barriers to fish migration should be adjusted.

We support inspections and evaluations to identify existing road conditions that cause or contribute to nonpoint source pollution and stream impairment. We recommend that the FEIS describe the frequency of maintenance activities for roads and whether adequate funding is anticipated for road maintenance. Road maintenance should focus on reducing road surface erosion and sediment delivery. Blading of unpaved roads in a manner that contributes to road erosion and sediment transport to streams and wetlands should be avoided.

We recommend that the FEIS describe necessary inspection and non-traffic-generated maintenance activities for closed, but unobliterated, roads, and describe obliteration and rehabilitation methods and their effectiveness for roads whose road prisms will be physically removed.

2. Road stream crossings greatly increase opportunities for stream sedimentation. How many Forest Service road stream crossings exist in the project area, and how many will be removed with the closure and decommissioning of roads in the project area? How many of these road stream crossings are culverted vs. bridge spans? Are culverts adequately sized to carry runoff during flood events and are culverts properly aligned with the stream channel?
3. We are pleased that no harvest would be allowed within RHCAs (page III-75). How wide are RHCAs? We recommend that the riparian buffer be 300 feet for fish bearing streams to reduce potential for sediment transport and adverse impacts to fisheries. Will buffer zones be established between burn units and streams? We recommend that skidders, dozers, or other heavy equipment not be allowed for skidding logs within the riparian buffer strip, and that log skidding outside the buffer strip on erosive slopes only be allowed on frozen ground or when soil moistures are below 18%. Erosion control should be kept current with skidding activities.
4. Comparison of Figure 16, Sensitive Soils Map (page III-68), with the Chapter II alternatives maps showing the location of harvest units indicates that the preferred alternative includes a few harvest units on “extremely erosive” soils (e.g., units 229B and 229C appear to be on extremely erosive soils, although unit numbers on the maps are difficult to discern). The protective measures that are proposed to mitigate erosion concerns on proposed harvest units on extremely erosive soils should be clearly disclosed (e.g., helicopter logging, skyline logging, winter logging, etc.)? Should harvest on extremely erosive areas be avoided? We also note that the location of some harvest units on “extremely erosive” soils seems to contradict the statement on page III-73 that states, “there are no areas where soil stability is a concern or where revegetation is a problem after harvest.”
5. It is stated in regard to Alternative 2 (pages III-74, III-75) that the treatments proposed in the Mill, Keystone, and Pardee Creeks may result in Equivalent Clearcut Acres (ECAs) that exceed 25% of the drainage. It is further stated that this high level of ECA could result in water yield and sediment yield increases, however, it is also stated that reductions in harvests are not needed since channel types are stable and changes in road management will offset the water/sediment yield increases due to harvest. We note that Keystone Creek is only stated to have “good to fair” channel stability (page III-71). It would appear that excessive water yield could aggravate water quality problems in Keystone Creek.

Also, the preferred alternative, Alternative 3/6 includes many of the same harvest units as Alternative 2, but also includes additional road construction and reconstruction (albeit roads

located away from streams). The ECAs for Alternative 3/6 shown in Table 47 (page III-75) are equal to or higher than the ECAs for Alternative 2. It would appear that these harvests that provide high ECAs for Alternative 3/6 could also result in a water yield concern. What are the water yield implications of these high ECAs in the Pardee, Keystone and Mill drainages for Alternative 3/6? We note that high water yields increase stream discharge which may erode unstable stream banks and sensitive soil types. This can lead to increased sediment loading and lateral channel migration.

6. The discussion in the Chapter III Aquatics section describing effects for the alternatives indicates that Alternatives 1, 4 and 5 are “likely to adversely affect the bull trout” and Alternative 2 is “not likely to adversely affect the bull trout.” For Alternative 3/6, the preferred alternative, the effect on bull trout is not clearly stated, although it is stated (page III-76) that the aquatic effects are similar to Alternative 2. We ask if this means that Alternative 3/6 has the same “not likely to adversely effect rating” to the bull trout (and westslope cutthroat trout) as Alternative 2?
7. It is stated (page III-69) that mining has had an effect in some areas by straightening the stream, destabilizing stream banks and contributing contaminants, including sediment into the streams. We ask if any of past and present mining has occurred on National Forest land, and if so, can the Forest Service address these mining related watershed problems?
8. There is minimal discussion of wetlands in the DEIS. Wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, fens and similar areas.

The FEIS should indicate if wetlands lie within the project area and describe impacts to wetlands, and explain how impacts, if any occur, will be mitigated (i.e., mitigation means sequence of avoidance, minimization, rehabilitation, and then compensation for unavoidable impacts). We recommend that heavy equipment not be operated in wetlands, including perennial seeps and springs. We encourage the Forest Service to delineate and mark the riparian areas boundaries and perennial seeps and springs and wetlands on maps and on the ground before harvesting so that timber contractors will be able to avoid them.

We also recommend that wetlands in any area to be sprayed with herbicides be identified and flagged on the ground to assure that herbicide applicators are aware of the location of wetlands, and thus, can avoid spraying in or near wetlands.

Executive Order 11990 requires that all Federal Agencies protect wetlands. In addition national wetlands policy has established an interim goal of **No Overall Net Loss of the**

Nation's remaining wetlands, and a long-term goal of increasing quantity and quality of the Nation's wetlands resource base. Wetland impacts should be avoided, and then minimized, to the maximum extent practicable, and then unavoidable impacts should be compensated for through wetland restoration, creation, or enhancement. The DEIS has insufficient information to determine potential project impacts to wetlands.

9. Are any of the water bodies in the project area (Mill Creek, Fourmile Creek, Miller Draw, Slowey Gulch, Keystone Creek or Pardee Creek) listed as a water quality limited water bodies by the Montana Department of Environmental Quality (MDEQ)? Water quality limited streams need development of Total Maximum Daily Loads (TMDL). The TMDL process identifies the maximum load of a pollutant (e.g., sediment, nutrient) a waterbody is able to assimilate and fully support its designated uses; allocates portions of the maximum load to all sources; identifies the necessary controls that may be implemented voluntarily or through regulatory means; and describes a monitoring plan and associated corrective feedback loop to insure that uses are fully supported.

We recommend that the Forest Service contact the Montana Department of Environmental Quality (i.e., Stuart Lehman at 444-5319 in Helena) to ensure that MDEQ has not listed any of the project area streams as water quality limited. If any streams are listed the Forest Service should obtain the concurrence of MDEQ with proposed activities with the MDEQ's TMDL development.

Monitoring

10. There is a need to conduct monitoring to determine ecological effects of the implementation of forest management activities. It is only through monitoring of ecological effects that the USFS will be able to determine whether management goals and objectives are being met. The EPA endorses the concept of adaptive management whereby effects of implementation activities are determined through monitoring (i.e., ecological, environmental effects).

Changes to land management and further development of implementation projects should be based on evaluation of monitoring results and comparison to goals and objectives. It is through the iterative process of setting goals and objectives, planning and carrying out projects, monitoring impacts of projects, and feeding back monitoring results to managers so they can make needed adjustments, that adaptive management works. Monitoring programs also allow detection and identification of water and air quality impacts that do occur so that they may be better mitigated. We believe monitoring and feedback of monitoring results to managers is critical to the success of a land management plan.

The EPA particularly believes that water quality/aquatics monitoring is a necessary and crucial element in identifying and understanding the consequences of one's actions, and should be an

integral part of any management decision. We realize that monitoring budgets are limited, but we believe some level of monitoring should be carried out for a period of time after the vegetation management activities to assess effects on aquatic habitat and biota. We also believe a hydrological and aquatics monitoring plan should be identified in the NEPA documents in order to fully assess the role of monitoring and evaluation in project implementation

The monitoring and evaluation section in the DEIS (page II-36) did not indicate if any water quality or aquatics monitoring is proposed to assess effects of project activities on aquatic habitat and biota. We would like to see a more detailed monitoring plan developed with clear water quality monitoring goals and objectives identified (e.g., what questions are to be answered; what parameters are to be monitored; where and when monitoring will occur; who will be responsible; how the information will be managed and evaluated; and what actions will be taken based on that information).

We recommend that the monitoring plan include sampling design, methodology, parameters, sampling site locations shown on a map, and frequency or pattern of sampling. The EPA strongly recommends incorporation of a biological component, such as rapid bioassessments using macroinvertebrates, in a monitoring program. Monitoring of the aquatic biological community is desirable since the aquatic community integrates the effects of pollutant stressors over time and, thus, provides a more holistic measure of impacts than grab samples of turbidity and suspended sediment. We encourage you to use the following reference materials in designing and disclosing a monitoring program:

"Monitoring Guidelines to Evaluate Effects of Forestry Activities on Streams in the Pacific Northwest and Alaska", Lee H. McDonald, Alan W. Smart, and Robert C. Wissmar; May 1991; EPA/910/9-91-001.

"Rapid Bioassessment Protocols for Use in Streams and Rivers", James A. Plafkin; May 1989; EPA/444/4-89-001.

Montana Forestry BMP's; Extension Publications; July 1991, Montana State University; EB0096.

"Montana Stream Management Guide; for Landowners, Managers, and Stream Users", Montana Dept. Of Environmental Quality; December 1995.

Noxious Weeds

11. It is stated that noxious weeds are found throughout the project area (page III-80), and that chemical and biological weed control is used. The EPA supports development of a strategy for

prevention, early detection of invasion, and control procedures for the major weed species threats on the Forest. Spread of noxious weeds and exotic (non-indigenous) plants is among the greatest threats to biodiversity. Many noxious weeds can out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. Noxious weeds tend to gain a foothold where there is disturbance in the ecosystem, such as road building, fire, or logging activities.

The EPA encourages the early control of noxious weed infestations to stop the spread of the infestations and avoid wider future use of herbicides, which could correspondingly have more adverse impacts on biodiversity, water quality and fisheries. Weed plant seeds can be carried from a source area by the wind, wildlife or pack animals, on equipment tires and tracks, by water, and on the boots of hikers. Care should be taken to implement control procedures in all source areas to avoid spread to unaffected areas. Measures for preventing spread from source areas to uninfested areas include:

- < Noxious weeds can be spread by vehicles. Ensure that equipment tracks and tires are cleaned prior to transportation to an uninfested site. The Forest Service may want to consider some restrictions on vehicles to reduce potential for reinfestation of the area by noxious weeds after treatment.
- < Focus control efforts at trail heads and transportation corridors to prevent tracking of seed into uninfested areas.
- < Attempt to control the spread from one watershed to another to reduce water as a transport vector.
- < If a localized infestation exists and control is not a viable option, consider rerouting trails or roads around the infestation to reduce available vectors for spread.
- < Establish an education program for industrial and recreational users and encourage voluntary assistance in both prevention and control activities.
- < Reseed disturbed sites as soon as possible following disturbance.

Also, if sufficient vegetation is killed (e.g., by prescribed burning) it may warrant revegetation efforts. Revegetation (reseeding with native grass mix) should be considered for any site within the control area where the vegetation density is low enough to allow reinfestation or introduction of other noxious weeds, or erosion. The goal of the seeding program should be to establish the sustainability of the area. Where no native, rapid cover seed source exists, we recommend using a grass mixture that does not include aggressive grasses such as smooth brome, thereby allowing native species to eventually prevail. Mr. Phil Johnson, Botanist,

Montana Dept. of Transportation, in Helena at 444-7657, may be able to provide guidance on revegetation with native grasses.

We also note that hay can be a source of noxious weed seed. Hay/straw is used as mulch to slow erosion and encourage seed germination, and used to feed horses in hunting and recreation camps, and as wildlife feed during harsh winters. The Federal Noxious Weed Act of 1974 prohibits the interstate transport of noxious weeds or weed parts, such as seed. Montana has a weed free certification program for hay. Forest Service staff should contact the County Extension Agent regarding this program. The Forest Service may want to discuss the option of requiring use of certified weed free hay in permits or projects. Cattle that are released on grazing allotments or horses used on public lands can transport undigested weed seed and spread it in their manure. Another option for preventing the introduction of noxious weeds is to require cattle and horses, especially those coming from areas with noxious weeds, to be penned and fed weed free hay for several days prior to being released on public lands.

12. It is stated that chemical and biological weed control is used on the District (page III-80). The proposed weed treatment chemicals and herbicides to be used, however, are not identified. The EPA is supportive of the control of noxious weed infestations, but we believe additional information should be presented to identify weed control chemicals, and the potential for toxic chemicals to be transported to surface or ground water following application. We recommend that the Forest Service include an objective indicating that herbicides, pesticides, and other toxicants and chemicals be used in a safe manner in accordance with Federal label instructions and restrictions that allow protection and maintenance of water quality standards and ecological integrity, and avoid public health and safety problems.

To better meet the public disclosure purposes of NEPA we recommend that the pesticide labels showing the use precautions and restrictions for the herbicide mixtures to be used during spraying, and that the acute toxicity levels of the proposed herbicides, be shown in the appendices of the FEIS. It should be unequivocally stated that no herbicide spraying will occur in wetlands or other aquatic areas (seeps, springs, streams, etc.,) to avoid herbicide drift into wetlands that could adversely affect wetland functions such as food chain support and habitat for wetland species.

All efforts should be made to avoid movement or transport of herbicides into surface waters that could adversely affect fisheries or other water uses. Herbicide applicators should be advised of the potential for runoff of herbicides at toxic concentrations into the streams. The applicators should take precautions during spraying (e.g., applying herbicide only after careful review of weather reports to ensure minimal likelihood of rainfall within 24 hours of spraying; special precautions adjacent to the stream to reduce runoff potential; etc.). We recommend that streams and wetlands in any area to be sprayed be identified and flagged on the ground to assure that herbicide applicators are aware of the location of aquatic areas, and thus, can avoid spraying in or near aquatic areas.

Many herbicides such as picloram (Tordon) and clopyralid (Curtail, Transline) and dicamba (Banvel) have potential to be transported to surface and ground waters. Clopyralid is closely related structurally to picloram (3, 6, Dichloropicolinic acid). The Montana Department of Agriculture (MDA) considers picloram and clopyralid to have high potential for leachability, since they do not readily adsorb to soils, do not photo degrade or volatilize. Clopyralid has a water solubility of approximately 300,000 ppm, a relatively low adsorption coefficient, and a moderate half life (approximately 40 days). Dicamba has a water solubility of approximately 400,000 ppm, and a half life of approximately 14 days. The MDA has found picloram and clopyralid in ground water in the Fairfield Bench area northwest of Great Falls where there are sandy clay soils. Clopyralid and picloram levels in ground water have been in the part per billion levels, below those considered a risk for human health.

We note in particular that picloram can persist and be transported in water systems for long periods (e.g. picloram solubility in water of 430 mg/l). Picloram is also relatively toxic to aquatic life having a 96 hour LC50 of 3.5 mg/l (cutthroat trout). We also note that Tordon application by a County Weed District in Wyoming (in accordance with herbicide label restrictions) resulted in transport of picloram through ground water a distance of several miles. Subsequent pumping of downstream ground water for household use resulted in the death of garden and household plants, evidencing the continuing presence of picloram in ground water. Mr. Edward Stearns, pesticide specialist in EPA's Denver Regional Office (telephone number (303) 312-6946), can provide further information regarding this particular episode of ground water contamination from picloram application.

In areas of highly permeable, sandy gravelly soil, and high ground water there may be potential for herbicides like clopyralid and picloram to leach to ground water. The Montana Department of Agriculture considers 50 feet of soil depth to be sufficient depth of soil to mitigate the potential for the movement of picloram or clopyralid to ground water (Donna Rise, MDA, phone 444-5400), although less permeable soils may allow reduction in this safe soil depth to ground water.

The vulnerability and sensitivity of area ground waters to contamination from proposed herbicide use should be considered. Relevant information on ground water in areas proposed for herbicide application including depth to ground water, seasonal variation in ground water depth, soil types-permeability-transmissibility, leaching potential, ground water uses, proximity of herbicide application areas to drinking water sources and/or wells, proximity of herbicide application areas to aquifer recharge areas, direction of ground water flow, ground water-surface water connections and interactions, etc., should be considered. The Ground Water Information Center at the Montana Bureau of Mines & Geology in Butte, MT at 496-4153 may have well log information for the area that would help establish ground water levels.

The Montana Department of Agriculture has developed a Generic Management Plan, which

has been approved by EPA, for the management of agricultural chemicals in Montana, including herbicides, and the protection of ground water resources. The Generic Management Plan serves as a basis from which Pesticide Specific Management Plans can be developed by the Montana Dept. of Agriculture and EPA. The Forest Service should assure that their proposed use of herbicides is consistent with this Generic Management Plan and future Pesticide Specific Management Plans, and is coordinated with the Montana Dept. of Agriculture (contact Ms. Donna Rise, in Helena at 406-444-3676).

We are concerned that inadequate information is presented in the DEIS to evaluate whether potential water quality and aquatics from proposed weed management activities will occur. We believe additional information should be provided to assure that probable project effects on the aquatic ecosystem will not occur.

13. The carcinogenicity of weed control chemicals proposed for use should also be understood. We note that evaluation of the carcinogenicity of these chemicals is an ongoing process, and as studies progress, information may change. The website for EPA information regarding the cancer classification for pesticides and herbicides is <<http://www.epa.gov/pesticides/carlist>>.

We also believe that health concerns other than carcinogenicity stemming from possible exposure to low levels of herbicides, such as endocrine disruption or reproductive effects should be considered. There is controversy over possible endocrine effects of 2, 4, D.

14. Prescribed burning in certain areas may have the potential to stimulate or promote noxious weed problems (e.g., Dalmation toadflax or leafy spurge growth) or destroy insects that may have been introduced for biological weed control. Have the potential effects of prescribed burns upon noxious weed problems been considered? We suggest that such considerations be evaluated for each individual burn unit. Burning can promote weed growth, but burning followed by herbicide use can bring effective weed control.

Air Quality

15. The EPA does not object to the increased use of prescribed fire and underburning to restore forest and grassland ecosystems. We believe that judicious use of prescribed fire can improve the health of ecosystems and reduce health and safety risks of uncontrolled wildfires. A well planned and managed prescribed fire and underburning program can be carried out without unduly impacting other resources (fisheries, wildlife habitat, and noxious weed spread and air quality).

As you are aware, smoke from fire contains air pollutants, including tiny particulates which can cause health problems, especially for people suffering from respiratory illnesses. Smoke can

also reduce visibility and diminish the appreciation of scenic vistas like the Selway Bitterroot or Mission Mountains Wilderness Areas.

We recommend that the USFS incorporate use of techniques that minimize air pollutant emissions from fire and the adverse impacts of smoke on public health and the environment. These techniques include scheduling burning during favorable weather conditions that allow good smoke dispersal, limiting the amount of land burned at any one time, and mechanical pretreatment of fuels.

Sound fire management practices include:

- * Reducing the dangerous build-up of dead trees, branches, and vegetative matter on forest floors by using prescribed fire or the selective thinning, pruning, or cutting and removal of trees by mechanical means.

- * Using smoke management techniques during burns to minimize smoke in populated areas as well as visibility effects. Each prescribed burn site will have unique characteristics, but in general, smoke impacts can be minimized by burning during weather conditions that provide optimal humidity levels and wind conditions for the types of materials being burned. Smoke impacts can also be minimized by limiting the amount of materials and acreage burned at any one time. Careful scheduling of the many burning activities to coincide with proper climatological and meteorological conditions helps avoid air quality problems.

- * Whenever possible, mechanical thinning (such as selective timber thinning, pruning, or cutting of small trees) can be used as an effective “pretreatment” to prescribed burning.

- * Implementing fire hazard awareness and mitigation programs for the public.

Conduct of prescribed fires immediately before precipitation events and runoff periods may result in stream sedimentation and nutrient transport to surface waters. We recommend low intensity fire in specific planned locations spread out over time so that some vegetative cover becomes reestablished before runoff periods.

While in general we concur with the use of prescribed burning to help achieve forest health, we suggest that there may be circumstances where it may be appropriate to use mechanical treatments in lieu of prescribed burns to address fuel accumulation in areas. Mechanical treatments may be appropriate where the risk of the escape of prescribed burns is high and where nearby home developments may be threatened.

Additional information on wildland fire and air quality issues is available from EPA’s website

[<www.epa.gov/airlinks/>](http://www.epa.gov/airlinks/).

16. Overall, the air quality analysis in the DEIS was well written and shows direct comparisons of air quality impacts according to selected alternative. The following are a few comments that may help in the public's understanding of air quality impacts:
- a) Page III-132 - Effects on Air Quality. We recommend that a windrose for the Superior area be included in the Final EIS so that local residents can see the predominant wind directions for their area. Windroses, representative of each quarter of the year, would be beneficial to give the public an idea of the direction of prevailing winds during the spring, summer, and fall seasons when prescribed burning is likely to occur
 - b) Figure 24 - Western Montana Airsheds. We recommend that the location of the Class I Air Quality Flathead Indian Reservation be shown in Figure 24.
 - c) Tables 66, 67, 68, and 69 are very informative by showing the differences in emissions between prescribed fire and wildfires.
 - d) Page III-137, first paragraph. "Assumptions made included ..." Please include what the assumption was for atmospheric stability in the air dispersion modeling.
 - e) Page III-137, first paragraph. "The predicted maximum air concentrations" We recommend that a table showing a comparison of predicted concentrations to state and/or federal air quality standards be included in this section.
 - f) Page III-139, third paragraph. "Should a situation like this occur, other restrictions on prescribed burning may be implemented by" We recommend that a few of these restrictions be listed for the public's knowledge.
 - g) The EPA believes monitoring of activities will be beneficial to improving understanding of impacts upon air quality. We encourage you to develop a monitoring plan to help you establish a quantitative and qualitative understanding of the impacts to air quality. Such a monitoring plan would also help to validate quantitative predictions for future activities

Wildlife and Old Growth

17. We note that with the advent of all terrain vehicles (ATVs) and off-road vehicles (ORVs) it is difficult to effectively restrict motorized access with simple road closures (i.e., gated closures). Gated road closures are less effective at providing wildlife security than in the past due to the advent of widespread use of ATVs and ORVs. An effective policing and enforcement program is needed to assure that motorized access does not occur in restricted areas. We recommend

that the FEIS describe the USFS inspection and enforcement program that will be used to assure that ATVs and ORVs will not violate motorized vehicle access limitations. It is important that wildlife protection, vegetation management, and erosion control goals be achieved, and these goals can only be achieved if enforcement of road access restrictions occurs.

18. It is stated on page III-122 that approximately 17 or 26 percent of the old growth in the dry forest VRU would be treated by harvesting and burning with Alternatives 2, 3/5 and 5. It is not clear why two different percentages (i.e., 17% and 26%) of old growth reduction are identified.
19. The 17 or 26% loss of old growth referred to in the comment above seems like a significant loss of old growth, yet the section on wildlife effects (pages III-16 to III-19) indicates that these alternatives that reduce old growth (i.e., Alternatives 2, 3/6 and 5) would actually slightly improve habitat for bird species that utilize old growth (e.g., black-backed woodpecker, flammulated owl, pileated woodpecker). This is a surprising result that we suggest be discussed further.
20. It is stated (page III-122) that, “valued old growth trees, snags and recruitment trees would be protected during treatment.” Will the larger diameter ponderosa pine, western larch and douglas fir trees be retained? We favor retention of the large diameter ponderosa pine, western larch and douglas trees, since it is our understanding that retention of these larger diameter trees would restore more natural ecological characteristics to the forest.
21. Would it be appropriate to place larger harvest units adjacent to existing forest openings in order to preserve areas that are currently less fragmented?

